

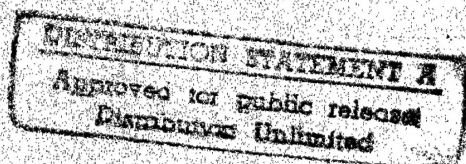
GAO

Report to the Chairman, Committee on  
National Security, House of  
Representatives

June 1997

ENVIRONMENTAL  
PROTECTION

Information Used for  
Defense  
Environmental  
Management



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National Security and  
International Affairs Division

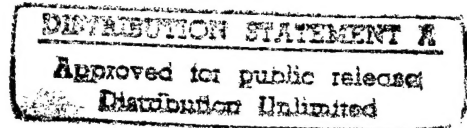
B-276616

June 11, 1997

The Honorable Floyd Spence  
Chairman, Committee on National Security  
House of Representatives

Dear Mr. Chairman:

As you requested, we are providing information on certain aspects of the Department of Defense's (DOD) environmental compliance and cleanup activities. This report discusses (1) the extent to which DOD components are meeting requirements to provide data on the cost and status of compliance projects and (2) the relative risk characteristics DOD uses to determine priorities for site cleanup.



## Background

Like private industry, DOD is subject to environmental, safety, and health laws and regulations. To meet the requirements of these laws and regulations at its installations, DOD has organized its environmental program into five areas: compliance, cleanup, conservation, pollution prevention, and technology. This report covers the two largest of these areas—compliance and cleanup,<sup>1</sup> which at \$2 billion each, account for more than 88 percent of DOD's fiscal year 1997 environmental budget of \$4.6 billion. (See a list of GAO related products at the end of the report.)

Compliance focuses on operating and maintaining military installations in accordance with environmental laws and regulations of federal, state, and local jurisdictions. A number of federal laws protect the environment. According to DOD, those laws that most affect DOD's funding for compliance are (1) the Clean Air Act; (2) the Federal Water Pollution Control Act (Clean Water Act); and (3) the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976. The Environmental Protection Agency (EPA) is the primary agency responsible for implementing environmental laws, but it may authorize states to administer some programs, including RCRA.

Cleanup includes identification, investigation, and actual cleanup of existing contamination from hazardous substances and waste on active and closing installations and formerly used defense sites. According to DOD's fiscal year 1996 annual report to Congress, DOD plans to spend about

<sup>1</sup>Funding for cleanup includes \$724 million appropriated in the Base Realignment and Closure account, as discussed in Military Bases: Potential Reductions to the Fiscal Year 1997 Base Closure Budget (GAO/NSIAD-96-158, July 7, 1996).

\$27 billion for site cleanup at DOD installations beginning in fiscal year 1997, through the time period represented in the Future Years Defense Plan, and well into the next century. In restoring contaminated sites, DOD must comply with two major federal environmental laws—RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended—as well as applicable state laws and regulations.

In this report, we use the term “standard” to define levels of contamination and the term “element” to refer to the three factors used by DOD and EPA to determine risk levels. Risk considers the following elements: (1) site contamination—the pollutants that are present and their concentrations; (2) an identified receptor—the people or ecosystems that could be harmed; and (3) an evident pathway—the medium through which the contaminant could reach the receptor. We use the term “characteristics” to describe the various combinations of risk elements and levels of contamination that we analyzed.<sup>2</sup>

## Results in Brief

Not all the information that DOD, EPA, and Congress have identified as required for compliance oversight is being provided. DOD components do not provide detailed expenditure data on compliance activities. DOD's reports to EPA do not provide such information as whether compliance projects address existing or expected noncompliance. In addition, some data in DOD's latest report to Congress were not complete or correct.

DOD used a relative risk site evaluation methodology in designating 4,472 of 8,534 sites as high risk.<sup>3</sup> Our analysis of reported data on 407 high-cost sites—including 266 considered high risk—indicates that DOD includes a range of site characteristics within its high-risk category. At 54 percent of the sites that were designated as high risk, all three elements used by DOD to make priority determinations were reported present. At the remaining 46 percent of the sites one or two of the elements, but not all three, were reported present. In addition, the reported levels of contamination at 58 of

<sup>2</sup>DOD describes the elements of the relative risk site evaluation as follows: “(1) contamination hazard factor (CHF)—contaminant concentrations compared to comparison values (comparison values differ from cleanup standards and are typically two orders of magnitude higher than cleanup standards); (2) migration pathway factor (MPF)—is contamination moving or likely to move; and (3) receptor factor—are humans or sensitive environments currently or likely to be affected.” Additional information on how DOD applies its relative risk methodology is included in appendix IV.

<sup>3</sup>Based on data as of September 30, 1995. DOD summary data as of September 30, 1996, designates 4,100 of 8,084 sites as high risk, but did not yet have supporting detail available for our analysis.

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the 407 sites we analyzed were less than the standard DOD used to determine whether a site is contaminated.

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## Required Data for Compliance Management Are Not Always Available

DOD, EPA, and Congress have established requirements for the defense components to provide certain environmental data. The Office of the Secretary of Defense (OSD) has developed information requirements that are designed to help DOD manage its wide-ranging environmental compliance activities and cost. DOD must provide its environmental program plans to EPA, and certain data on its environmental compliance activities to Congress. However, not all of the required data are being provided. In addition, our May 1997 report addresses, among other related issues, DOD's need for and efforts toward uniform tracking and management for programs involving DOD's compliance with laws and regulations.<sup>4</sup>

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## DOD Reporting

We and OSD have noted that DOD's budget execution and financial reporting do not provide DOD or Congress with the information needed to provide for oversight of compliance. In 1995, the Deputy Under Secretary of Defense for Environmental Security began an environmental quality data initiative to promote consistency in compliance definitions, categories, and requirements. Under the initiative, DOD made changes to the classes it uses to prioritize nonrecurring (one time) compliance projects and added a new class "0" for recurring costs not related to one-time projects. DOD's changes also permitted recurring and nonrecurring costs for compliance, conservation, and pollution prevention to be reported separately. After these changes, funds used for activities such as personnel, training, permits, fees, and hazardous waste disposal were to be reported as recurring costs, and funds used for activities such as underground storage tank replacement and stormwater system upgrades were to be reported as nonrecurring costs.

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## EPA Reporting

EPA has developed guidance for environmental data reporting under a system now called FEDPLAN, which replaced the reporting that had previously been required under the Office of Management and Budget

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<sup>4</sup>Environmental Protection: Status of Defense Initiatives for Cleanup, Technology, and Compliance (GAO/NSIAD-97-126, May 29, 1997).



Circular A-106.<sup>5</sup> According to EPA headquarters officials, DOD stopped reporting A-106 information to EPA in 1994. OSD officials told us they had recommended canceling the circular's reporting requirements because EPA was not using submissions and reporting did not help improve DOD's environmental compliance program. According to EPA officials, DOD's environmental data are important. In September 1996, DOD began submitting data files used to produce its annual environmental quality report to Congress. DOD officials told us they believe that the data files are more informative than previous data because they are linked to current budgets.

For FEDPLAN system reporting, EPA requests that agencies, including DOD, provide information on 47 data elements related to environmental compliance activities. EPA ranks the importance of all required data elements on a three-point scale. Of the 47 data elements, EPA officials determined that 21 elements are critical to making the FEDPLAN system function effectively because a project cannot be entered into the system without them. EPA's critical elements include federal facilities identification numbers, compliance status, compliance codes, and statutory authority. (Some elements, such as cleanup site data, may not apply to compliance activities.)

## Congressional Reporting

Congress requires DOD to provide data on its environmental compliance activities. The Office of the Deputy Under Secretary of Defense for Environmental Security provides the data to Congress each year in a report entitled Defense Environmental Quality Annual Report to Congress. For the upcoming fiscal year 1996 report, OSD asked the defense components to provide data on planned recurring spending for fiscal years 1998 through 2002. Required report information was requested for the following categories:

- appropriation,
- major command,
- installation,
- federal facilities identification number,
- state,
- country, and
- budget year.

<sup>5</sup>The Office of Management and Budget Circular A-106 was issued in December 1974 and rescinded in April 1996. Executive Order 12088 (42 U.S.C. 4321 note), promulgated in 1978, requires federal agencies to provide a pollution control plan. According to EPA officials, FEDPLAN fulfills that requirement.

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For fiscal year 1998 only, OSD also asked the defense components to provide information on nonrecurring projects costing over \$300,000. In addition to the previous categories, DOD asked for the following information:

- project description,
- legal requirement, and
- compliance class.

Appendix I contains a more complete list and explanation of the reporting requirements.

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### Extent to Which Data Requirements Are Being Met

Most of DOD's data involving future-year budget estimates for compliance activities are reported by the components, but details on actual expenditures are not. Also, the project data in DOD's most recent report to Congress were not complete or accurate. Subsequent to our draft report, DOD provided additional fiscal year 1998 budget data to Congress.<sup>6</sup>

DOD also did not provide complete data to EPA in its submission of fiscal year 1997 data for environmental quality projects. The defense components' submissions accounted for \$422 million (18 percent) of DOD's reported \$2.33 billion total. The Army reported 36 percent of its total environmental quality budget, the Air Force reported 27 percent, and the Navy reported 6 percent. Marine Corps officials stated that, although they submitted data through the Navy to OSD for incorporation into DOD's environmental quality report, for unknown reasons the same data did not reach EPA. That data showed projects estimated to cost \$300,000 or more were valued at \$39.5 million (25 percent) of the Marines Corps' total fiscal year 1997 environmental quality budget of \$157.6 million.

Also, for those activities that DOD components reported to EPA, not all the details requested by EPA were provided. Some, but not all, DOD components provided information on 15 of 47 data elements. For the 21 elements identified by EPA as critical, the components provided at least partial data on 12. An EPA official stated and EPA guidance indicated that, without those data elements, EPA could not assess DOD's overall compliance status or

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<sup>6</sup>The additional data provided by DOD in its budget submission contain information on the obligation of prior-year funds by component, appropriation, pillar (compliance, pollution prevention, and conservation), and functional area (e.g., permits and fees, waste disposal, Clean Air Act, and Clean Water Act). DOD officials stated that there is currently no requirement that DOD's annual quality report to Congress contain project-level obligation data.

address the relative importance of the projects DOD is undertaking. In addition to DOD not providing data adequate for EPA's analysis, an EPA official told us that it was received too late in the budget cycle for EPA to request additional data from DOD. (See app. II for a detailed breakdown of the data EPA requires and the information DOD provided.)

DOD officials stated that they do not believe EPA has provided useful feedback on the environmental compliance data DOD has provided. Also, DOD officials stated that they are required to report only those projects estimated to cost \$300,000 or more and that this requirement partially accounts for the difference between DOD's total compliance budget and the amounts reported to EPA.

In its fiscal year 1995 report, provided to Congress in December 1996, DOD accounted for only \$2.33 billion of the \$2.58 billion fiscal year 1997 environmental quality program reported in the President's budget for 1998.<sup>7</sup> Also, the report's breakout of projects costing \$300,000 or more omitted some projects. DOD officials told us they were aware of the difference between the report and the budget and would correct this amount in future reports.

## Relative Risk Characteristics at DOD's Cleanup Sites

To direct resources to cleanup sites that pose the greatest risk to human health and the environment, DOD has developed a methodology for evaluating the relative risk at its sites. DOD stated that the methodology provides a quantifiable basis for justifying requirements and allocating funds. On the basis of the degree of contamination and the potential exposure, DOD assigns each site a relative risk rating of high, medium, or low. According to DOD criteria, a site can be characterized as high if it has significant contamination or if it has lesser contamination that could potentially affect human health or the environment.

DOD's fiscal year 1995 report showed that relative risk assessments had been completed for 8,534 of 15,240 sites. Of the completed assessments,

- 4,472 (52.4 percent) were reported as high,
- 1,913 (22.4 percent) as medium, and
- 2,149 (25.2 percent) as low.

<sup>7</sup>DOD officials stated that the environmental quality program is divided into six major functions: planning, compliance, pollution prevention, conservation, education and training, and environmental technology.

We analyzed data on 91 installations that had a total of 407 sites that met our criteria for being a high-cost site.<sup>8</sup> DOD components reported that these sites had estimated combined cleanup costs of \$5.1 billion for fiscal year 1996 to completion. We identified those sites having similar characteristics. For example, we grouped the high-risk sites by the degree of identified contamination: significant, moderate, or minimal.<sup>9</sup> We also grouped those sites having an identified means of contact between contaminants and people, animals, or plants and an evident pathway through which the contaminants could travel.

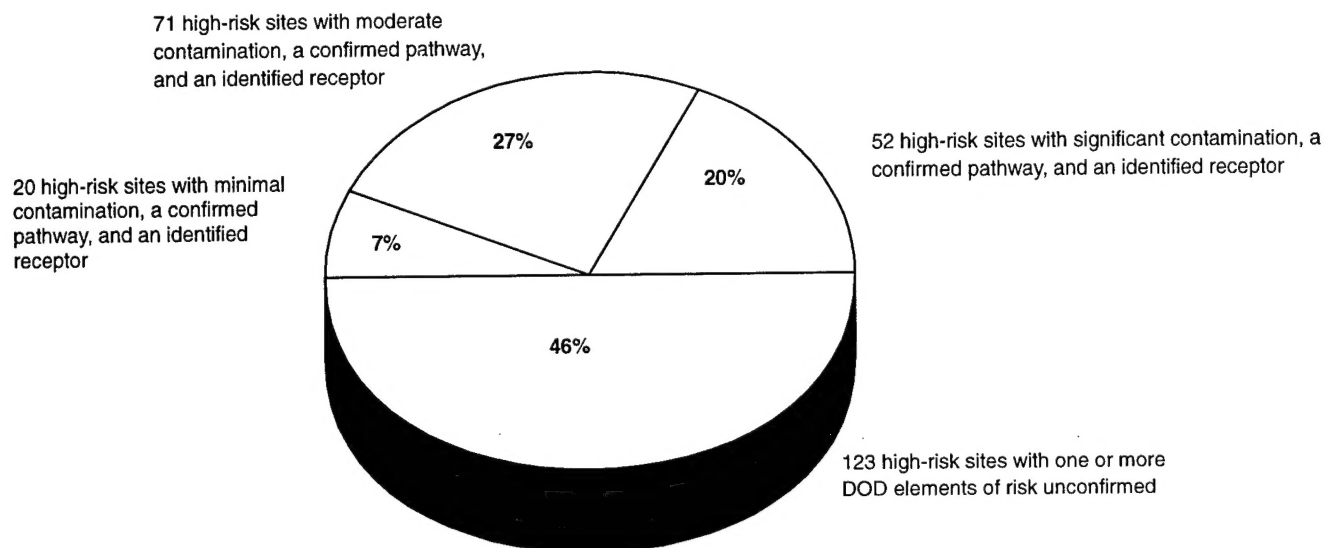
Our review of DOD's risk data worksheets for the 266 high-risk sites of the 407 total sites indicated that 20 percent reported significant contamination with a confirmed pathway and identified receptors. In addition, 54 percent reported all three elements of risk: contamination above standard, an identified receptor, and an evident pathway.<sup>10</sup> (We did not visit the sites or determine the basis for cleanup in any of these cases.) Figure 1 shows the results of our analysis. The estimated cost to complete cleanup of the 266 high-risk sites is \$4.3 billion.

<sup>8</sup>The site data were requested from installations for which DOD's annual report showed more than \$20 million in planned funding during fiscal years 1996-98 or more than \$100 million in projected costs from fiscal year 1996 to completion.

<sup>9</sup>With a contaminant ratio (called a "comparison value") of 1 signifying the standard, DOD designated sites whose contaminant ratios totaled over 100 as having significant contamination. DOD designated sites whose contaminant ratios totaled from 2 to 100 as having moderate contamination. DOD designated sites whose contaminant ratios totaled less than 2 as having minimal contamination.

<sup>10</sup>DOD uses the same basic elements of risk as EPA but applies these elements in a simplified manner. For example, rather than a quantified score for the degree to which a pathway may exist for contaminants to reach receptors, such as people, DOD categorizes the pathway by whether it is "evident," "potential," or "confined."



**Figure 1: Our Analysis of DOD Sites With High Relative Risk**

In our sample of 407 sites, we also identified those sites in all three relative risk categories (high, medium, and low) that had contamination, as reported by DOD, within the standards that DOD used. Of the 407 sites, 58 reported contamination levels that were less than the standard that DOD used. These 58 sites have estimated cleanup costs of about \$443 million. (See app. III.)

In discussing relative risk data, DOD and service officials stated that the ranking system is an initial screening method and only one of the factors considered by decisionmakers in determining whether to fund cleanup at specific sites. The officials stated that the final decisions are supported by detailed site assessments made in accordance with regulations.<sup>11</sup> Also,

<sup>11</sup>According to DOD, reuse is a major factor in prioritizing and funding decisions for sites at BRAC [Base Realignment and Closure] installations. For example, DOD stated that ANAD-48, an Army site on the first line of the appendix III table, is only in the fiscal year 1998 budget for \$1,107,000, compared to the \$118,457,000 cost to complete estimate shown in the table.

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they noted that the existence of an estimated cost of completion does not mean that a site has in fact been funded for fiscal year 1998.

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## Agency Comments

DOD had no comments on the overall report message but they did suggest some technical and editorial changes. We made those suggested changes where we felt it was appropriate. We reprinted DOD's comments in their entirety in appendix IV, as well as our comments on specific points.

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## Scope and Methodology

To address compliance data needs, we interviewed and reviewed data from officials at EPA headquarters; DOD's Office of the Deputy Under Secretary of Defense for Environmental Security; and Army, Navy, Air Force, and Marine Corps headquarters. To address the risk-related characteristics of cleanup sites funded by DOD, we requested and analyzed 407 relative risk worksheets for selected high-cost sites at 91 high-cost installations identified from DOD's 1995 annual report to Congress.<sup>12</sup> The site data were requested from installations for which DOD's annual report showed more than \$20 million of planned funding during fiscal years 1996-98 or more than \$100 million of projected costs from 1996 to completion. From each installation, we requested relative risk data worksheets for up to five sites: the three highest cost high-risk sites and the highest cost medium-risk and low-risk sites. We did not visit these sites, assess the relative risk standards DOD used, or determine the basis for cleanup in these cases.

We conducted our review from November 1996 to March 1997 in accordance with generally accepted government auditing standards.

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Unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time, we will send copies to other appropriate congressional committees; the Secretaries of Defense, the Army, the Navy, and the Air Force; the Commandant, Marine Corps; and the Directors, Office of Management and Budget and Defense Logistics Agency. We will also make copies available to others on request.

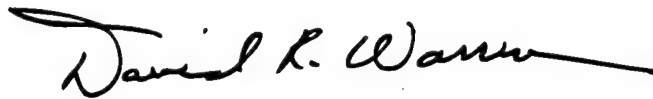
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<sup>12</sup>Defense Environmental Restoration Program Annual Report to Congress for Fiscal Year 1995.

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If you or your staff have any questions concerning the report, please contact me on (202) 512-8412. Major contributors to this report are listed in appendix V.

Sincerely yours,

A handwritten signature in black ink that reads "David R. Warren". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

David R. Warren, Director  
Defense Management Issues



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**Abbreviations**

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOD	Department of Defense
EPA	Environmental Protection Agency
OSD	Office of the Secretary of Defense
RCRA	Resource Conservation and Recovery Act

# Compliance Data Requirements for the Department of Defense 1996 Annual Environmental Quality Report to Congress

Requirement	Description
<b>Recurring cost data category</b>	
Appropriation	Operation and maintenance; military construction; procurement; the Department of Defense (DOD) working capital fund; or research, development, test, and evaluation.
Major command	"Self-explanatory."
Installation	"Self-explanatory."
Federal facilities identification number	Unique number used to identify the installation.
State	"Self-explanatory."
Country	"Self-explanatory."
Budget years 1997 through 2001	Dollar value, in thousands, of each of the 5 budget years for an installation.
<b>Nonrecurring cost data category <sup>a</sup></b>	
Project name	Descriptive name of the unique project
Legal requirement	A five-digit code corresponding to the appropriate statutory requirement. For example, the Clean Air Act (CAA) would be represented by CAA, and the Resource Conservation and Recovery Act (RCRA) (subtitle C) would be represented by RCRAC.
Compliance class	The priority code associated with the project.
Project budget	FY97 projected dollar value of the project, in thousands.

<sup>a</sup>This category includes appropriation, major command, installation, and federal facilities identification number.

# EPA FEDPLAN Data Requirements and DOD Service Submissions

Data element description	Element importance	Service submission		
		Army	Navy	Air Force
Federal facilities identification number	1	YES		YES
Department/agency name	1	YES	YES	YES
Bureau/major command name	1	YES	YES	YES
Name of facility	1	YES	YES	YES
Street mailing address	1			
City name	1			
Country	1		YES	
EPA region	1			
Agency project number	1		YES	
Project name	1	YES	YES	YES
Project city name	1			
Multiple installations	1			
Progress code	1			
Total cost estimate	1	YES	YES	YES
Federal agency funding account code	1	YES	YES	YES
Estimated project cost	1	YES	YES	YES
Statutory authority (law/regulation)	1	YES	YES <sup>a</sup>	YES
Environmental category code	1			
Compliance status	1			
Compliance class	1	YES	YES	YES
Priority score	1			
Zip code (facility location)	2			
National Priority List site	2			
Ownership type	2			
Project name contact	2			
Project contact telephone number	2			
Project street address	2			
Zip code (project location)	2			
Year funding required	2		YES	
Funded/unfunded	2		YES <sup>a</sup>	
Major program area	2	YES	YES <sup>a</sup>	
Pollution prevention	2			
Description	2			

(continued)

**Appendix II**  
**EPA FEDPLAN Data Requirements and**  
**DOD Service Submissions**

Data element description	Element importance	Service submission		
		Army	Navy	Air Force
Operable unit/activity data sheet	2,3			
Installation latitude/longitude	3			
Building number	3			
Room number	3			
Project site latitude/longitude	3			
Project milestones	3			
Reasons for discontinuance	3			
Federal agency program element code	3			
Office of Management and Budget appropriation account identification code	3			
Type of cost	3			
Local priority	3			
Bureau/major command priority	3			
Geographic initiative	3			
Reason for initiation	3			

Legend for EPA element importance category

1 = Project cannot be entered into the system without this data. Input must be completed or corrected immediately.

2 = Project will be entered into the system. However, missing or inaccurate data should be completed or corrected within 45 days.

3 = Project will be entered into the system. Missing or inaccurate data should be corrected during the next update.

Note: EPA—Environmental Protection Agency.

\*Data provided were incomplete.

Source: Federal Agency Environmental Management Program Planning Guidance, EPA, October 1994, and DOD and service submissions to EPA.

# High-Cost Sites With Reported Contamination Levels That Do Not Exceed Standard

From DOD's fiscal year 1995 cleanup report to Congress, we identified installations that reported more than \$20 million in planned total spending during fiscal years 1996 through 1998, or more than \$100 million in estimated cost from fiscal year 1996 to completion. We requested data for each installation's three highest cost sites with a high-relative risk ranking and the highest cost sites with medium- and low-relative risk rankings. We received data for 91 installations as of March 27, 1997. In table III.1, "risk rating" is the overall relative risk assigned on each site's worksheet, "contamination" is the DOD-prescribed contaminant hazard factor calculated for the site, and "cleanup cost" is the estimated cost to complete from fiscal year 1996 to completion.

Table III.1: Sites Reported

Dollars in thousands			
Service	Risk rating	Contamination	Cleanup cost
Army	High	0.02	\$118,457
Army	High	0.04	639
Army	High	0.15	18,626
Army	High	0.24	471
Navy	High	0.03	36,293
Air Force	High	0.44	23,257
Air Force	High	0.94	1,001
Army	Medium	0.09	3,362
Army	Medium	0.09	3,379
Army	Medium	0.13	402
Army	Medium	0.23	55,948
Army	Medium	0.03	49,331
Navy	Medium	0	643
Navy	Medium	0.28	2,300
Air Force	Medium	0	14,434
Air Force	Medium	0.29	2,518
Air Force	Medium	0.32	296
DLA	Low	0.02	41
DLA	Low	0.47	317
Army	Low	0	6,341
Army	Low	0	9,868
Army	Low	0	430
Army	Low	0.07	1,321
Army	Low	0.19	4,179
Army	Low	0.32	4,847
Army	Low	0.34	2,254

(continued)



**Appendix III  
High-Cost Sites With Reported  
Contamination Levels That Do Not Exceed  
Standard**

Dollars in thousands

<b>Service</b>	<b>Risk rating</b>	<b>Contamination</b>	<b>Cleanup cost</b>
Army	Low	0.79	1,409
Army	Low	0.83	1,930
Navy	Low	0	4,546
Navy	Low	0	8,341
Navy	Low	0.01	557
Navy	Low	0.01	632
Navy	Low	0.10	573
Navy	Low	0.10	2,164
Navy	Low	0.10	392
Navy	Low	0.11	2,734
Navy	Low	0.16	80
Navy	Low	0.20	1,520
Navy	Low	0.29	2,431
Navy	Low	0.04	920
Navy	Low	0.50	57
Navy	Low	0.60	1,004
Navy	Low	0.17	906
Air Force	Low	0	1,240
Air Force	Low	0	572
Air Force	Low	0	14,129
Air Force	Low	0	816
Air Force	Low	0.02	721
Air Force	Low	0.04	383
Air Force	Low	0.11	4,155
Air Force	Low	0.14	1,826
Air Force	Low	0.33	1,390
Air Force	Low	0.43	510
Air Force	Low	0.49	15,614
Air Force	Low	0.53	3,707
Air Force	Low	0.63	4,855
Air Force	Low	0.63	100
Air Force	Low	0.78	1,601
<b>Total</b>			<b>\$442,770</b>

Note: DLA—Defense Logistics Agency.

# Comments From the Department of Defense

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



ACQUISITION AND  
TECHNOLOGY

Mr. David R. Warren  
Director, Defense Management Issues  
National Security and International Affairs Division  
U.S. General Accounting Office  
Washington, D.C. 20548

## OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3000

16 MAY 1997

Dear Mr. Warren:

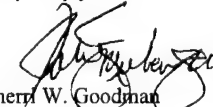
This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ENVIRONMENTAL PROTECTION: Information Used for Defense Environmental Management" dated March 31, 1997, (GAO Code 709222/OSD Case 1331).

In summary, there are two main areas that need to be addressed. First, the section on DoD reporting states the Deputy Comptroller established a joint working group in November, 1994, to get more information on amounts budgeted and expended for hazardous waste disposal and upgrades to waste water treatment plants. The Deputy Comptroller established the working group to develop an accounting report specifically for the Defense Environmental Restoration Account, and not to address Compliance program activities.

The second concern is the way the draft report addresses prioritization of the Cleanup Program. The draft report implies that the relative risk site evaluation process is a substitute for a risk assessment, and therefore a tool to determine whether or not work is required at a specific site. The DoD relative risk site evaluation process is a tool used only to indicate the relative priority within three broad categories of high, medium, or low. The draft report should recognize that other considerations (e.g., statutory and regulatory requirements, program execution status, stakeholder concerns, economic factors, and reuse of Base Realignment and Closure sites) have a large role in determining the funding priority of the Cleanup Program.

The section on Data Requirements states that DoD data in the Environmental Quality Annual Report was neither complete nor accurate. The DoD has taken steps to improve both the quality, organization, and accuracy of the data in the annual report, including the list of projects provided to the Environmental Protection Agency. More detailed comments are in enclosure 1.

Very truly yours,

  
For: Sherman W. Goodman  
Deputy Under Secretary of Defense  
(Environmental Security)

Enclosure

*Environmental Security*



*Defending Our Future*

See comment 1.

See comment 2.

Detailed Comments on GAO Report 709222

Page 1, First Paragraph, item (2)

See comment 3.

Reword the item as follows: "the relative risk site evaluation (RRSE) portion of the DoD prioritization process." Relative risk is the only portion of the DoD prioritization process that the report discusses. Other factors, such as reuse at BRAC bases, statutory and regulatory agreements affecting a particular site, program execution considerations, stakeholder concerns, and economic factors are not addressed in the report.

Page 2, Last Line

See comment 4.

Insert at the end of the sentence and before "Risk...": "Within the CERCLA response action process, site specific risk assessments are used to evaluate the significance of contamination and to determine if cleanup actions are required at sites in particular media. RRSE, although it is based on similar considerations, is a programmatic screening tool used to place sites with known requirements into one of three broad categories. As a result of placing sites into a "high-medium-low" category, RRSE provides a useful stratification of work requirements and a basis for dialogue with stakeholders on what the logical sequencing of work at an installation should be. Coupled with other risk considerations, it provides a basis for prioritizing work. From a programmatic perspective, it provides a way to measure overall risk reduction as requirements in each of the three broad categories are reduced, based on sites being completed." The extra detail is necessary to explain the relative risk site evaluation process and its difference from the risk assessment process. Change the beginning of the last sentence to "Relative risk" from "risk" for accuracy.

Page 3, First Paragraph

Now on p. 2.  
See comment 4.

As written, the descriptions of the RRSE factors are incorrect. The descriptions do not take into account the *potential* for contaminant migration and the *potential* for receptors to come into contact with contamination via the migration pathways. To accurately reflect the RRSE methodology, reword the description of the elements of RRSE as follows:  
"(1) contamination hazard factor (CHF) - contaminant concentrations compared to comparison values, (comparison values differ from cleanup standards and are typically two orders of magnitude higher than cleanup standards); (2) migration pathway factor (MPF) - is contamination moving or likely to move; and (3) receptor factor - are humans or sensitive environments currently or likely to be affected."

Page 3, "RESULTS IN BRIEF"

Now on p. 2.  
See comment 3.

**First Paragraph.** The second sentence states that the Components do not yet provide detailed expenditure data on compliance activities. That is not totally accurate. All Military Construction funded Compliance projects are identified separately by project, and both the obligations and expenditures are tracked by project at the OSD level. Additionally, operation and maintenance funded Compliance activities are more thoroughly documented than ever before, and the Components report the obligations in the FY 1996 column of the FY 1998 budget exhibits.

In the last line, change "was" to "were". Editorial Correction. Data are plural.

Now on p. 2.  
See comment 5.

**Second paragraph.** The third sentence is incorrect and should be deleted. RRSE takes into account both current and potential exposure to contaminants. Site specific risk assessments also take into account potential exposure. Cleanup actions are required frequently as a result of unacceptable potential exposure situations identified in site specific risk assessments.

See comment 5.

In the fourth sentence, delete everything after "...high risk" and replace with "had confirmed pathways and identified receptors, which means that contamination has already migrated to human or environmental receptors." The change corrects inaccuracies.

In the last sentence, delete everything after "...were less than the" and replace with "comparison values used by DoD." The changes are needed to correct inaccuracies.

**Page 4, "DoD Reporting"**

Now on p. 3.  
See comment 1.

The second sentence states that the working group established by a memo issued by the Deputy Comptroller for Financial Systems was to get more data for "...activities like hazardous waste disposal or upgrades to waste water treatment plants." is incorrect. The memo established a joint working group, at the request of the Deputy Under Secretary of Defense (Environmental Security) and the Office of the Deputy Under Secretary of Defense (Program/Budget), to implement an accounting report for the Defense Environmental Restoration Program and provided a reporting format to be operational by the beginning of FY 1996.

**Page 7, "Extent to Which Data Requirements Are Being Met"**

Now on p. 5.  
See comment 3.

The first sentence states that details on actual expenditures are not reported. The budget exhibits, provided to the appropriate Oversight Committees, contain a column documenting the obligation of prior year funds, by Component, by appropriation, by Pillar (Compliance, Pollution Prevention, and Conservation) and by functional area (Permits & Fees, Waste Disposal, Solid Waste, Clean Air Act, Clean Water Act, etc.) There are over 30 pages of exhibits. The sentence should clarify that there is no requirement for project level obligation data to be provided in the annual report. The sentence should also be clear if expenditure or obligation data is desired, or both.

**Page 7, "Extent to Which Data Requirements Are Being Met"**

Now on p. 5.  
See comment 6.

The first paragraph does not clarify what data are not provided. Move the second full paragraph from page 8 to the end of this paragraph, and the thought is completed.

**Page 8, Second Full Paragraph**

Now on p. 6.  
See comment 7.

The "\$2.58" billion reference in the first sentence should be changed to "\$2.37" billion. The difference is caused by the inclusion or exclusion of Technology data. Since on page 7, the report discusses the \$2.33 billion EQ total, the number should be consistent. The difference from the reported \$2.33 billion to \$2.37 billion was because the smaller Defense Agencies were not included in the annual report. The Department is working to improve the accuracy of the summary data and the project list. DoD is also fulfilling more of EPA's data requirements.

Appendix IV  
Comments From the Department of Defense

Now on p. 6.  
See comment 6.

Now on p. 7.  
See comment 3.

Now on p. 7.  
See comment 3.

Now on p. 7.  
See comment 3.

Now on p. 8.  
See comment 8.

Now on p. 8.  
See comment 9.

Now on p. 8.  
See comment 10.

**Page 9, First Full Paragraph, second line**

After "...significant contamination" insert "(greater than 100 times the associated comparison values)" in order to define significant.

**Page 9 (continued) Second Full Paragraph, seventh line**

Insert the following descriptions after significant, moderate, or minimal, respectively: significant "(greater than 100 times the associated comparison values)", moderate "(2 - 100 times the associated comparison values)", minimal "(less than twice the associated comparison values)". The changes define the relationships of the ranking scale.

**Last paragraph, fourth line**

Delete all after "...20 percent reported significant..." and replace with "contamination with a confirmed pathway and identified receptors. 54 % had both a confirmed pathway and identified receptors." The change is needed to more accurately describe the findings.

Continue with the Figure 1 sentence, but delete footnote 8, since it is explained in previous text.

**Footnote 7**

Change the last word from "contained" to "confined" for accuracy.

**Page 10, Figure 1**

Delete the ending clause for each of the notes describing the three wedges that total 54% and replace with the clause "and an identified receptor". Delete the note that describes the 46% wedge and replace with "123 high risk sites with either the pathway or receptor or both rated as potential." The changes make the table consistent with the preceding text, which corrects inaccuracies.

**First full paragraph, third line**

Delete "...EPA prescribed standards" and replace with "comparison values...". As previously stated in DoD comments on Page 3, DoD used comparison values, not EPA standards.

Next sentence, insert "comparison values derived from" after "compared with". And after EPA Region IX insert "preliminary remediation goals and other sources" and delete "standards". This change provides consistency with previous comments that DoD uses comparison values, not standards.

Next sentence after "...less than the" delete the rest of the sentence, and replace with "comparison values." Comparison values are not standards.

**Page 11, second line**

Replace "determining whether to fund" with "prioritizing". As previously stated in comments on page 3, relative risk is used to place sites in broad priority bands, not to make funding decisions on specific sites.



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Appendix IV  
Comments From the Department of Defense

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Now on p. 8.  
See comment 10.

At the end of the second line, insert the sentence "For sites at BRAC installations, reuse is a major factor in prioritization and funding decisions." before "They...". The change is required to explain that factors other than relative risk affect BRAC Cleanup decisions.

At the end of the paragraph, insert "For example, ANAD-48, an Army Site on the first line of the APPENDIX III Table, is only in the FY 1998 Budget for \$1,107,000, compared to the \$118,457,000 cost to complete estimate shown in the table." The example highlights the large difference between cost-to-complete and the FY 1998 President's Budget request.

**Page 17, appendix III**

In the Title, replace "STANDARD" with "COMPARISON VALUE" for accuracy.

In the Heading for the third column of the table, replace "Contamination" with "Contaminant Hazard Factor" or "CHF" to make the table consistent with DoD comments on accuracy.

See comment 3.

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The following are GAO's comments on the DOD's letter dated May 16, 1997.

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## GAO Comments

1. Our draft report cited a 1994 working group that the Deputy Comptroller in the Office of the Secretary of Defense established to develop budgeting procedures for compliance activities. We deleted reference to that working group because DOD officials stated that they intended the authorization for an environmental security working group to be limited to cleanup activities.
2. The results in brief and relative risk sections address the relative risk site characteristics that DOD reported in its fiscal year 1995 annual report to Congress. Our report recognizes in the section on relative risk characteristics that the ranking system is an initial screening method that is only one of the factors considered by decisionmakers in determining whether to fund cleanup at specific sites. Our report recognizes other factors and therefore does not imply that relative risk evaluation is a substitute for a risk assessment.
3. We have modified our report in response to DOD's comment.
4. We included these additional DOD data and conclusions in a footnote on page 2.
5. Our statement refers to distinctions such as the difference between "identified" receptors and "potential" or "limited" receptors.
6. The cited paragraph is intended only to introduce the subject.
7. DOD acknowledged that the total costs shown in its annual report, \$2.33 billion, did not reflect all of the defense agencies' projects. However, DOD indicated that it understated the figure by only \$40 million, not the \$250 million we reported. Even though DOD's annual report lists technology as one of its six major environmental quality program functions, DOD officials told us they did not consider technology as part of the environmental quality program and thus excluded such amounts from reported totals. Our calculations, showing a difference of \$250 million between the President's budget and the annual report, included totals for the defense agencies and technology programs that DOD omitted. The 1998 President's budget for fiscal year 1997 totaled \$2.58 billion, including technology. The \$2.37 billion cited by DOD included defense agencies but excluded technology. Since the President's budget included technology

programs and the annual report did not indicate that technology programs were being excluded from reported totals, we have not changed our calculations.

8. We added the modifier "identified" to the first three notes. We did not add "potential" to the note for the 46 percent segment because we noted that other combinations, including confined pathways and limited receptors, were present.

9. We did not delete the term "standard" because our draft specified the term as defining levels of contamination and each of DOD's relative risk worksheets used the term "standard" in this context.

10. We did not replace "determining whether to fund" with "prioritizing" but did add the additional information supplied by DOD.

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# Related GAO Products

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Environmental Protection: Status of Defense Initiatives for Cleanup, Technology, and Compliance (GAO/NSIAD-97-126, May 29, 1997).

Federal Facilities: EPA's Penalties for Hazardous Waste Violations (GAO/RCED-97-42, Feb. 28, 1997).

DOD Problem Disbursements (GAO/AIMD-97-36R, Feb. 20, 1997).

Environmental Cleanup: Inadequate Army Oversight of Rocky Mountain Arsenal Shared Costs (GAO/NSIAD/AIMD-97-33, Jan. 23, 1997).

Military Base Closures: Reducing High Costs of Environmental Cleanup Requires Difficult Choices (GAO/NSIAD-96-172, Sept. 5, 1996).

Environmental Protection: Status of Defense Initiatives for Cleanup, Compliance, and Technology (GAO/NSIAD-96-155, Aug. 2, 1996).

Military Bases: Potential Reductions to the Fiscal Year 1997 Base Closure Budget (GAO/NSIAD-96-158, July 7, 1996).

Environmental Compliance: Continued Need for Guidance in Programming Defense Construction Projects (GAO/NSIAD-96-134, June 21, 1996).

Federal Facilities: Consistent Relative Risk Evaluations Needed for Prioritizing Cleanups (GAO/RCED-96-150, June 7, 1996).

Military Bases: Closure and Realignment Savings Are Significant, but Not Easily Quantified (GAO/NSIAD-96-67, Apr. 8, 1996).

Environmental Protection: Issues Facing the Energy and Defense Environmental Management Programs (GAO/T-RCED/NSIAD-96-127, Mar. 21, 1996).

Environmental Protection: Challenges in Defense Environmental Program Management (GAO/T-NSIAD-95-121, Mar. 24, 1995).

Military Bases: Environmental Impact at Closing Installations (GAO/NSIAD-95-70, Feb. 23, 1995).

Environmental Cleanup: Case Studies of Six High Priority DOD Installations (GAO/NSIAD-95-8, Nov. 18, 1994).



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Pollution Prevention: Status of DOD's Efforts (GAO/NSIAD-95-13, Nov. 9, 1994).

Environment: DOD's New Environmental Security Strategy Faces Barriers  
(GAO/NSIAD-94-142, Sept. 30, 1994).

Environmental Compliance: DOD Needs to Better Identify and Monitor  
Equipment Containing Polychlorinated Biphenyls (GAO/NSIAD-94-243, Aug. 24,  
1994).

Environmental Cleanup: Better Data Needed for Radioactively  
Contaminated Defense Sites (GAO/NSIAD-94-168, Aug. 24, 1994).

Natural Resources: Defense and Interior Can Better Manage Land  
Withdrawn for Military Use (GAO/NSIAD-94-87, Apr. 26, 1994).

Environmental Cleanup: Too Many High Priority Sites Impede DOD's  
Program (GAO/NSIAD-94-133, Apr. 21, 1994).

Environmental Compliance: Guidance Needed in Programming Defense  
Construction Projects (GAO/NSIAD-94-22, Nov. 26, 1993).

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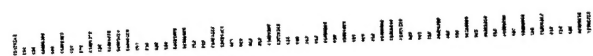
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